STATEMENT OF CONSIDERATIONS

REQUEST BY UNITED TECHNOLOGIES CORPORATION, FOR AN ADVANCED WAIVER OF DOMESTIC AND FOREIGN PATENT RIGHTS UNDER COOPERATIVE AGREEMENT NO. DE-FC36-00GO10535; W(A)-00-019; CH-1034

The Petitioner, United Technologies Corporation (hereinafter "UTC"), has requested a waiver of domestic and foreign patent rights for all subject inventions arising from its participation under the above referenced cooperative agreement entitled "Hydrogen Storage in Polymer Dispersed Metal Hydrides". This cooperative agreement pertains to the development of a polymer/metal hydride system for hydrogen storage.

The objective of this cooperative agreement is to characterize the performance and mechanism of hydrogen storage in Polymer-Dispersed Metal Hydride (PDMH) materials. The primary performance gauge for use during this study will be gravimetric hydrogen-storage capacity. Specifically, this cooperative agreement is directed to the selection of polymers, metal hydrides, and mixing methods for the synthesis of PDMH materials. Characterization and analysis will be performed on synthesized PDMH samples. Data from the characterization and analysis will provide a basis for an overall system design and development of project plans for subsequent phases of the cooperative agreement.

It is anticipated that this project will be performed in three phases, over a period of approximately three years. Phase I of the cooperative agreement runs from May 1, 2000 to July 31, 2001 at a total cost of $298,006.00, of which the Petitioner's cost share was $59,601.00 or an approximate 20%-cost share. Participation by UTC in the subsequent phases is contingent upon review by DOE of the final report of the preceding phase. It is anticipated that this waiver will be applicable over all three phases of the contract, contingent upon approval of the contracting officer to UTC's involvement in each phase and provided that the Petitioner maintains, in aggregate, substantially the same cost sharing percentage over the course of the cooperative agreement (i.e., 20%). Application of this advanced waiver to subsequent phases is effective upon approval by field patent counsel.

As noted in its waiver petition, Petitioner, through its subsidiary, International Fuel Cells (hereinafter "IFC") has an established commercial position in fuel cell technology. Further, IFC has significant expertise in hydrogen fuel storage cell technology with more than 10 years of experience in the development of this technology. Exemplary of the Petitioner's expertise in the field is a patent in hydrogen storage technology and numerous technical articles published on the subject by its employees as shown under point 5 in the attached waiver petition. Considering Petitioner's technical expertise, established market position, and significant investment in this technology, including significant cost sharing in this cooperative agreement, it is reasonable to conclude that Petitioner will continue to further develop and commercialize the technology which may arise from this cooperative agreement.

Referring to item 10 of the waiver petition, granting this waiver is not anticipated to have any adverse impact on competition. There are several alternate technologies for hydrogen storage which include hydrogen storage by compressed gas systems and alternate metal hydride systems. The Petitioner will compete with these alternate technologies and while obtaining a position in the market, broaden the overall hydrogen storage system business. The

granting of this waiver and the underlying cooperative agreement can be expected to stimulate competition in the field by providing a viable alternate to existing hydrogen storage technologies.

The Petitioner has agreed that this waiver will be subject to the usual government license and march-in and U.S. preference provisions, equivalent to those set out in 35 U.S.C. 202-204, as well as appropriate background patent, and data licensing provisions, including contractor licensing. Further, Petitioner has agreed to the attached U.S. competitiveness provisions (clause (t)), wherein the Petitioner has agreed that products embodying any waived invention or produced through the use of any waived invention will be manufactured substantially in the United States unless Petitioner can show to the satisfaction of the DOE that it is not commercially feasible to do so, and in any event it will not license, assign or otherwise transfer any waived invention to any entity unless that entity agrees to these same requirements.

Considering the foregoing, it is believed that granting this waiver will provide Petitioner with the necessary incentive to invest its resources in the commercialization of the results of the cooperative agreement in a fashion which will make the above technology available to the public in the shortest practicable time. Therefore, upon evaluation of the waiver petition and in view of the objectives and considerations set forth in 10 CFR Part 784, all of which have been considered, it is recommended that the requested waiver be granted.

Thomas G. Anderson
Assistant Chief Counsel
Office of Intellectual
Property Law

Date: 9/7/00

Mark LaMarre
Patent Attorney
Office of Intellectual
Property Law

Date: 9/7/2000

Based upon the foregoing Statement of Considerations and representations in the attached waiver petition, it is determined that the interests of the United States and the general public will best be served by a waiver of patent rights of the scope described above, and therefore the waiver is granted. This waiver will not apply to any substantial modification or extension of the cooperative agreement, except as contemplated herein.

CONCURRENCE:

Neil Rossmeissl
Hydrogen Research and Development Manager

Date: 17 October 2000

APPROVAL:

Paul Gottlieb
Assistant General Counsel for Technology Transfer and Intellectual Property

Date: 11-9-00